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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,658	04/19/2006	Ulrich Brochheuser	GKNG 1271 PCT	8464
<div>7590 Robert P Renke Suite 250 28333 Telegraph Road Southfield, MI 48034</div>			<div>EXAMINER TOLAN, EDWARD THOMAS</div>	
			<div>ART UNIT 3725</div>	<div>PAPER NUMBER</div>
			<div>MAIL DATE 05/16/2008</div>	<div>DELIVERY MODE PAPER</div>

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/562,658	<b>Applicant(s)</b> BROCHHEUSER ET AL.	
	<b>Examiner</b> EDWARD TOLAN	<b>Art Unit</b> 3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 10-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 10-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12-28-2005, 4-19-2006</u>                                     | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 10-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Alexoff (4,616,500). Alexoff discloses a method of manufacturing a hollow shaft (26) having first and second end portions of greater wall thickness and an intermediate portion of reduced wall thickness comprising providing a mandrel (12) having diameters (14,16,18) stepped over its length and including a first longitudinal section having a smallest diameter (16), a section (18) having a larger diameter and another section (14) and forming the shaft by cold drawing using a matrix (24). The tube is guided from one tube end by means (20,32). In figures 1B and 1C Alexoff discloses that a first end and intermediate portion are formed with the mandrel (12) and shaft (26) position unchanged while figures 1D and 1E show that a second end is formed by the mandrel first end with a changed axial position of the mandrel.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alexoff (4,616,500) in view of Kaneko (6,758,077). Alexoff does not disclose swaging or rolling. Kaneko teaches that it is known to form a hollow shaft of differing wall thickness by using a stepped mandrel (2) and rolling tool (3). It would have been obvious to one skilled in the art at the time of invention to form the shaft of Alexoff with a roller as taught by Kaneko as a known alternative processing technique.

Claims 23-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alexoff (4,616,500) in view of Stump (4,161,112). Alexoff does not disclose a cone angle of the mandrel and a wall thickness ratio. Stump teaches a mandrel (11) having a cone angle (25) of 6 degrees (column 4, lines 32-35 and column 6, lines 20-22). Stump teaches a wall thickness ratio (column 6, lines 5-7) of greater than 1.6,  $0.465/0.260 = 1.78$ . It would have been obvious to one skilled in the art at the time of invention to provide the mandrel of Alexoff with a cone angle as taught by Stump in order to produce shafts of a varying wall thickness.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Verdier discloses a cone angle of 10 degrees and varying wall thicknesses (e1,e2).

Any inquiry concerning this communication should be directed to Ed Tolan whose telephone number is 571-272-4525. FAX communications should be sent to 571-273-8300.

/Edward Tolan/

Primary Examiner, Art Unit 3725